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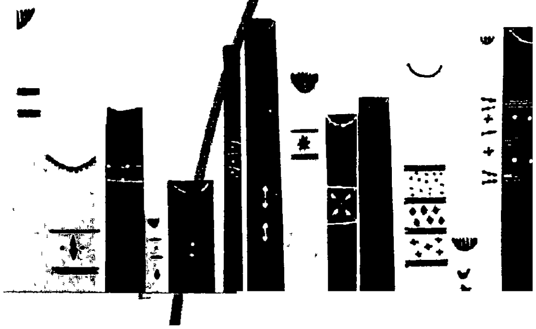

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FOREWORD

(Including instructions for using the subject index)

The publication of the Index Volume marks the completion of the Encyclopaedic Dictionary of Physics and is at the same time the signal for work to be intensified on keeping that Dictionary up to date. This is to be accomplished by the publication of a series of Annual Supplements which will be compiled on much the same lines as the Dictionary itself. Thus, they will be arranged alphabetically, articles will be self-contained and reasonably short, and will be signed. Cross-references will be incorporated and bibliographies will be included as a guide to further study. Each volume will have its own index but, in addition, a cumulative index will be prepared every five years.

The Annual Supplements will deal with new topics in physics and related subjects, new developments in topics previously covered, and topics which have been left out of earlier volumes for various reasons. They will also include survey articles covering particularly important fields falling within the scope of the Dictionary.

It would be surprising if a work of the scope and complexity of the Encyclopaedic Dictionary of Physics were free, or could be free, from errors and omissions; and I hope that readers will not hesitate to write about them either to me or to the Pergamon Press, so that corrections may be incorporated in errata lists that will be issued from time to time. The first of these lists is to be found at the end of the present volume.

Now a word on the Index Volume itself. Both subject and author indexes are included, and the former, which is arranged in alphabetical order, gives all reasonable variations of the 15,000 or so terms listed in the seven previous volumes of the Dictionary, as well as showing where many thousands of topics are dealt with that do not form the subjects of separate articles.

In each case the reference in the index is given in the form of the volume number, in parenthesis, followed by the page number on which a particular article appears, thus:

Power breeder type of nuclear reactor: *see* Nuclear
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Where the reference is to an article of 500 words or more the volume number is printed in bold type, and where the topic in question does not form the subject of a separate article an additional page number is given showing on which page the topic is mentioned, where this is helpful, thus.

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In the actual text such topics are distinguished by bold or italic type, except where a topic is treated implicitly rather than explicitly.

Where the first word of a term in the subject index applies to other entries which immediately follow, this word has been put in bold type in the first entry and is replaced by a rule (—) in the entries below. For example:

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Where no related entries follow, the whole of the term appears in bold type.

As a consequence of this system, all terms which begin with the same word are entered under that word, so that the position in the index of terms such as "radio astronomy" and "radio telescope", for example, is determined by the word "radio", and these terms precede "radioactive", "radiosonde" and similar compound words. This is inevitably a little arbitrary, but having been warned the reader may find it easier to locate an apparently missing term.

This detailed index, in the preparation of which I should like to acknowledge the invaluable help given by Mr. W. J. Stern and Mr. S. Crimmin of the Pergamon Press's London office, runs to some 50,000 entries. It will enable the reader to locate a particular topic at once, in whatever rational word order he pleases (at the expense of some duplication of entries—considerable in some instances). At the same time it will offer him a view of what else is available in the Dictionary on the same or similar topics. It should, therefore, prove of value both to the seeker after information on one particular topic and to the "browsing" reader. The Index Volume is thus an integral and essential part of the Encyclopaedic Dictionary of Physics as a whole.

J. THEWLIS
Editor-in-Chief

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ERRATA : Volumes I - VII

Volume I

p. VIII, line 7. *For:* depth *read:* debt.

p. 1, Col. I, line 1. *For:* Abbé *read:* Abbe

p. 73, Col. I. See also: *for:* Antenna *read:* Various articles beginning "Antenna"

p. 114, Col. I, line 42 *should read:*

> i.e. ratio of total scattered energy to incident energy.

p. 128, Col. II. Beginning of second paragraph. *For:* principle *read:* principal

p. 220, Col. I, line 40. *For.* 1(a) *read:* 1(b)

p. 243, Col. I. See also: *for:* Spectrograph grating *read:* Spectrograph, concave grating

For: ampére (unit) *read.* ampere

For: Ampére *read:* Ampère

p. 359 *under* Balance, single-pan *add* See. Balance

p. 367, Col. II, Second paragraph from bottom. *This should read:*

> *Fundamental parameters.* The internal diameter of the tube, the calibre, provides a natural unit of length. Bore lengths are then a few tens of calibres If the shot weight is W lb. and the calibre d in., then W/d^3 differs from 0·5 by rarely more than a factor of two. Low values . . .

p. 467, Col. I, equation 2 *should read*

$$\frac{\partial f}{\partial t} + (\mathrm{V}\cdot\nabla)f + \frac{1}{m}(F\cdot\nabla_v) = \left(\frac{\partial f}{\partial t}\right)_{\text{coll}}$$

p. 467, Col. I, two lines up. *For:* Δ_v *read:* ∇_v.

p. 536, Col. I. Figure to be turned through 90°.

p. 556, Col. II, equation in centre. *For:* $\left(1 + \frac{d'}{ba}\right)$ *read:* $\left(1 + \frac{d'}{6a}\right)$.

p. 592, Col. I, line 38. *Insert* 10^{-8} *before* dyne.

p. 686, Col. II, line 13. *For:* $\sec x$ *read:* $\sec^2 x$.

p. 776, Col. II, last line but three. The equation should read

$$F(v, J) = B_v J(J + 1) + D_v J^2(J + 1)^2.$$

Volume II

p. 513, Col. I, line 16 *should read:*

> . . . of ferrous to ferric compounds and the reduction of ceric to cerous.

p. 673, Col. I, line 16. *For:* 16 *read:* 10^6.

Volume III

p. 469, Col. II, equation in Gladstone and Dale law should read

$$\frac{n-1}{\rho} = \text{constant}$$

p. 473, Col. I, line 3. *For:* -3×10^{-6} *read:* 3×10^{-6}.

Volume IV

p. 44, Fig. 4. Ignore numbers on ordinate axis.

p. 44, Fig. 5. *For:* Famada *read:* Yamada.

p. 44, Col. II, line 18. *For:* Famada *read* Yamada.

p. 196, Col. II, equation 2. *For:* $Al(q_1, q_2, \cdots q_n, t)$ *read:* $A_l(q_1, q_2, \cdots q_n, t)$.

p. 197, Col. II, equation 8. *For:* $\frac{\mathrm{d}}{\mathrm{d}t}\left(\frac{\partial L}{\partial q_i}\right)$ *read:* $\frac{\mathrm{d}}{\mathrm{d}t}\left(\frac{\partial L}{\partial q_i}\right)$

p. 493, Col. I, line 7. *For:* ($10^{-2} - 10^{-6}$ mm^2 Hg) *read:* (10^{-2}—10^{-6}mm Hg).

p. 700, Col. II. Article Molecular Effusion *For:* $\frac{S\sqrt{(kt)}}{2\pi m}$ *read:* $S\sqrt{\left(\frac{kt}{2\pi m}\right)}$.

p. 771, Fig. 7. The acknowledgement should read:

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Volume V

p. 655, Col. II, line 7 down. *For* θl^{i} *read:* δl_i.

p. 655, Col. II, line 17 up. *For:* their *read* either.

p. 657, Col. I, lines 7 and 14 up. *For:* $\frac{\lambda}{x}$ *read:* $\frac{\lambda}{X}$.

Volume VII

p. 767, Col. I. See also; *For* Dynamical instability, dynamic *read:* Instability, dynamic.

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For convenience in planning, and to provide a framework on which the Dictionary could be erected, physics and its related subjects have been divided into upwards of sixty sections; the scope of each section has been decided with the help of specialist consulting editors. The sections are listed below, but, as the Dictionary is arranged alphabetically, they do not appear as sections in the completed work.

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